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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,027	09/26/2003	Yann Le Gallo	60130-1894;02MRA0144	8046
26096	7590	11/17/2004	EXAMINER	
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			COLON SANTANA, EDUARDO	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/673,027	Applicant(s) LE GALLO, YANN	
	Examiner Eduardo Colon-Santana	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/26/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/08/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 01/08/2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6-15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by O'Connor et al. in publication WO 01/36772 A1.

Referring to claims 1-4, 14 and 15, O'Connor et al. discloses an integrated obstacle detection system as claimed (see all figures and respective portions of the specifications). O'Connor et al. further states the use of direct (non-contact) detectors and indirect (contact) detectors to directly and indirectly detect an obstruction (see Fig. 9 and pages 21-29). Moreover, O'Connor et al. discloses that the direct (non-contact) detector may be of various type of sensors (page 10, line 24-27), however for this embodiment he uses a light sensor, which detects a light distribution affected by any obstruction (see figure 2A-2C). Additionally, O'Connor et al. describes the use of

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indirect (contact) detectors and mentions various manners in which an obstruction may be detected indirectly (see pages 21 and 22). O'Connor et al. states that the output of the electric motor (Torque)¹ can also be used to indirectly detect an obstruction (see page 25, lines 3-7). Finally, O'Connor et al. show in figure 9 a controller (analyzing circuit) (202), which analysis (compares) both detecting system to determined if an obstruction is present to stop movement or reverse its motion (see page 28, lines 26-32).

As to claims 7-9, the method steps are inherent in the product structure discussed above. Discussion is omitted.

Referring to claims 6, 11 and 17, the non-contact (direct) detector detects obstructions according to the position information provided by the contact (indirect) detector (see page 24, lines 11-23).

As to claim 10, O'Connor et al. discloses a memory (106 or 204), which is used to store values and update the reference distribution.

Referring to claims 12 and 13, O'Connor et al. addresses all the limitations of claims 7-9, in addition to disclosing that a predetermined threshold has been stored in memory to adjust the difference between the energy levels when an obstacle is detected. Furthermore, O'Connor et al. states that the system has the capacity to dynamically (variable) adjust variations in the reflected radiation (see page 26, lines 6-30).

¹ Torque = The product of a force acting at a distance.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Connor et al in view of Breed et al. U.S. Patent No. 6,442,465.

Referring to claims 5 and 16, O'Connor et al. addresses all the limitation of claims 1 and 14 and mentions the use of light sensors. However, he does not explicitly teach nor describes that the light sensor is a charge coupled device sensor (CCD). On the other hand, Breed et al. discloses a vehicular component control system based on pattern recognition using optical sensors and optical images of a person, wherein a charge coupled device sensor (CCD) is used. Since O'Connor et al. and Breed et al. are in the same field of endeavor of detecting an object, the purpose disclosed by Breed et al. would have been recognized in the pertinent art of O'Connor. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a charge coupled device sensor as used by Breed et al. within the teaching of the light sensors in O'Connor et al. for the purpose/advantages that by using a charge coupled device sensor (CCD) it improves the measurement in the x and y dimensions, thereby acquiring a wider range to detect an object. Additionally, CCDs

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commonly respond to about 70% of the incident light and are sensitive to infrared light, which allows low light intensities, even for ultraviolet and visible wavelengths to be detected.

Conclusion

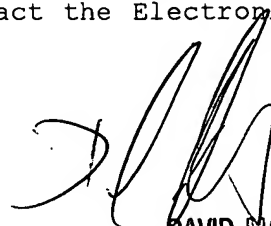
4. The prior art made of record in form 892 and not specifically relied upon is considered pertinent to applicant's disclosure to further show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Colon-Santana whose telephone number is (571) 272-2060. The examiner can normally be reached on Monday thru Thursday 6:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Martin can be reached on (571) 272-2800 X.37. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ECS
November 4, 2004



DAVID MARTIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800